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GEORGE BUCHAN

Professor of Clinical Surgery

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On the Radical Cure of Artificial Anus, by Dupuytren's Enterotome, and subsequent plastic operation.

by

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The condition termed artificial or preternatural anus is attended with symptoms so disagreeable to the patient and offensive to the attendants, that any means proposed or devised for its relief merit the attentive consideration of all surgeons. Many cases of an opening in the bowels communicating with an external wound—whether the result of injury or of sphacelus occurring as a consequence of strangulated hernia—admit of spontaneous cure under certain favourable circumstances, and most surgeons have seen cases of this kind, as the sequel of hernia in which operative procedure has been too long delayed. But in examples of a more confirmed kind, where the artificial opening has long existed, no ordinary process of nature seems sufficient to restore the normal condition of the parts. In the simpler forms, where the edge of the partition between the two extremities of the bowel lies at some depth within the external wound, and where the two portions of intestine form an obtuse angle with each other, the defect may sometimes be overcome by the use of the crutch proposed by

Dieffenbach, or its modification by Mr Trant; but when the septum is adherent to the external opening, forming a complete separation between the two orifices of the intestines, pressure alone will not suffice to force it back in such a way as to admit of the contents of the proximal end entering the distal end of the canal. In such a case, division of the partition is the only means available for restoring the continuity of the intestinal tube. That this can be done with safety and success Dupuytren has conclusively shown in his well-known "Leçons Orales;" but his example seems to be little followed by British surgeons, if one may judge by the paucity of successful cases reported. A case which occurred in my practice, and in which the use of Dupuytren's instrument was followed by the most marked success, induces me to urge a more extended trial of his plan on those whose position as hospital-surgeons affords opportunities of seeing examples of artificial anus.

Case.—Mrs G., aged 40, had been the subject of femoral hernia of the left side for many years. It did not give her much uneasiness, and was usually easily reduced, until, on the 1st July, 1866, it came down and resisted her efforts to push it back. Symptoms of strangulation coming on, she sent for a medical man, who, after trying taxis without success, administered chloroform, and proceeded to perform the operation. He informed me that, after opening the sac, he divided the stricture, and on applying what he considered moderate pressure, the bowel, which was dark-coloured, gave way under his fingers. The ruptured intestine was left in the sac, poultices were applied, and the symptoms of strangulation disappeared. The patient in a few days began to amend, but no improvement took place in the seat of operation, but rather an increase in the size of the opening in the bowel, which constantly discharged fæcal matter.

On the 17th August, 1866, she came to seek relief at Glasgow Royal Infirmary, and was admitted to Surgical Ward 30 under my care. The following is an account of her state on admission:—

There is an opening in the left groin, rather larger than a half-crown piece, through which the open intestine protrudes. The edges of the intestinal opening are firmly adherent to the lips of the aperture in the integument, and there is always an eversion, sometimes a considerable prolapsus of the mucous surface of the bowel. When the patient strains, which she sometimes is compelled to do involuntarily, as much as two inches of the intestine is protruded in an everted state. The closeness of the valvulæ conniventes shows that the protruded intestine is the ileum, at some distance from its lower end. In the general opening can be detected very clearly two orifices—one of the upper, the other of the lower portion of the intestine. The proximal or upper part of bowel is at once apparent by the discharge of dark-brown feculent matter, nothing but a little mucus coming from the other. The two orifices are close together, but completely separated by a thick partition, which feels as if it were somewhat thicker than a double layer of intestinal wall; and examination with the finger and thumb conveys the idea that it is formed of the walls of the two pieces of bowel agglutinated as the result of previous local inflammation of the peritoneal surfaces. Each orifice leads straight into the corresponding intestine, the two tubes being parallel to each other, and divided by the septum or *éperon*, so as to resemble a double-barrelled gun. The lower edge of the partition where it divides the external opening is very tense and firmly adherent at each end, so that any attempt to push it back is quite ineffectual.

The skin of the lower half of the abdomen and the upper part of left thigh is red, excoriated, and irritable, owing to the constant discharge of acrid matters, so that the state of the patient as to comfort is very miserable. She is worn out with restlessness and want of sleep, and probably from deficient nourishment, one of the ordinary consequences of artificial anus when situated high up the alimentary canal.

As she was obviously in a state wholly unfit for any

surgical manipulation, I ordered such treatment as seemed calculated to palliate her sufferings until she became somewhat stronger. Her diet was ordered to be as concentrated as possible, consisting principally of animal food and wine. She was instructed to lie as much as she could on the back, and to guide the fæcal discharge into a vessel placed in the bed by her side. Various applications were made to the excoriations, but none afforded relief except oxide of zinc ointment, which both soothed the irritation and prevented the fæces from acting on the skin.

Under this treatment the patient gradually improved, and by the beginning of November she was in a state to bear some manipulation.

On the 30th November, at my clinical Lecture, I introduced an enterotome which I had got made after Dupuytren's description. The blades of the instrument, which lock into each other, were 4½ inches long. The operation of applying it caused the patient no pain, as great care was taken to handle it with extreme caution. The two blades were introduced separately into their corresponding orifices, and when pushed up to the extent of four inches, were turned to face each other, and locked like midwifery forceps. They were then approximated by means of the screw attached to the handles until they were made to bite very firmly into the septum, between the two parallel pieces of the bowel. When fairly locked, the male blade must have pressed the mucous septum an eighth of an inch into the female, the extremities of the blades remaining half an inch apart.

8 P.M.—Patient has been tolerably easy all day; does not complain of any pain in groin, but has some in the epigastric region. Has also had some retching and bilious vomiting, especially after taking fluid. She was ordered to have a mustard poultice applied to the epigastrium, and to take one grain of solid opium at night and in the morning. To swallow nothing for twelve hours, but to suck small bits of ice if thirst became urgent.

1*st December*.—Patient has had a fair night. No pain.

Pulse 80. This morning the blades of the enterotome were further approximated, causing a little pain in epigastric region.

2*nd*.—Continues to feel comfortable. Pulse steadily 80. Tongue moist. As there has been no return of vomiting, she is ordered a mutton chop and some brandy daily. The blades of the instrument were screwed home.

4*th*.—Patient continues well. This morning some fæcal matter was passed per rectum, the first that has come by the natural passage since the 1st of July—a period of five months!

5*th*.—Has passed fæces the natural way three times, and to-day, for five hours, nothing escaped from the opening in the groin.

7*th*.—This morning the enterotome dropped out of the opening, having between its teeth a long strip of the septum. A hemisphere of gutta-percha, fixed to a circular plate of tin (which formed a broad flange), was used as a plug to stop up the external opening. It was fixed by straps of adhesive plaster and a bandage. A simple enema was ordered to encourage the fæces to pass into the rectum.

8*th*.—The above contrivance failed to produce its intended effect. Some fæcal matter forced its way out by the side of the plug, so it was removed and discontinued. Patient is ordered to lie on the back, and to remove at once any matter which may still escape from the groin.

10*th*.—A dose of castor-oil and a laxative enema prescribed yesterday produced a copious alvine evacuation, part of which came by the groin, and part from the anus. I introduced my finger into the artificial anus, and felt the edge of the divided septum as far up as my finger could reach.

9*th January*.—Since last report patient has had repeated doses of castor-oil and simple enemata, usually every three days, with the view of restoring the natural action of the bowels; and gradually the matters discharged by the anus have become more bilious and normal in character. She has lain constantly on her back while in bed, but has got up to walk about daily. While she is lying still the contents of

the bowels almost all pass down into the lower part, but when she gets up the thinner portions escape by the artificial anus.

The opening having now considerably contracted, I ordered her to wear a water-proof truss.

1*st February.*—The truss has served its purpose admirably. Since she began to wear it no fæcal matter has come by the groin, except when she removes the instrument, which she does morning and evening for a few minutes to clean it, and replaces it immediately.

18*th.*—Patient has a natural motion *per anum* daily without medicine. She takes her food well, and has much improved in health and personal appearance. She can walk about quite well while wearing the truss, and not a particle escapes from the opening in the groin. Indeed, she is in every respect like a person who is the subject of a reducible femoral hernia for which it is necessary to wear a truss.

The opening was now reduced to the size of a shilling, and as there was a prospect of a still further reduction of its size, the patient was sent home for a time.

She was re-admitted in November, her state being exactly as at last report.

Attempts were made to close the opening by the application of the actual cautery once every week or ten days for many weeks. A diminution took place, but the edges were now so tight that it seemed that there was no prospect of further diminution; so on the 28th February I performed a plastic operation. I made an elliptical incision on the skin on each side of the opening, including the hardened edges, which I dissected off. The skin was then separated from the subjacent parts freely for an inch on each side, and the flaps slid over till they met in the middle, edge to edge. They were secured by quill suture. Solid opium was administered to keep the bowels from acting. On the third day, however, some yellowish matter began to escape, and soon the stitches gave way, and the opening was formed again. However, the removal of the hardened edges seemed to have produced a condition which was favourable to the

subsequent contraction of the wound, and the opening again closed to a small size. It was now obvious that the patient had got all the improvement of which the case was capable and she was dismissed in a very fair state.

By the use of a truss she can keep herself quite free from any discharge, and can go about and follow her occupation with ordinary care. She requires to take as much care of her movements as if she had an ordinary reducible hernia.

In conclusion, I may remark that, although the preternatural anus is not closed, the operation was a perfect success in respect to the effect of the enterotome. There is no doubt that the continuity of the intestinal canal would never have been restored by any natural process, and the woman would have continued during her whole lifetime to discharge the contents of the bowels from the opening in the groin. Now, however, she is able to go about, to follow her ordinary calling, and to conduct the affairs of her house with no other inconvenience than the constant wearing of a truss.

The use of the enterotome is so simple, so safe, and so effectual, that I shall have no hesitation in using it in all similar cases which may come under my care.

Mrs Graham was admitted to the Western Infirmary on the 22nd March, 1878, with a simple fracture of the patella on the left side. The limb was put into a box splint, and when removed on the 30th April, union of the fracture had taken place.

SEQUEL.

Mrs Graham reports that since she was under my care in 1866, she has remained in nearly the same state as that reported in November of that year. She has since then been occupied as servant and housekeeper in a small household, and can undertake all the duties of such a situation. The use of a truss prevents the escape of fæces from the preternatural anus—but when the bowels become loose, or on the occasion of any unusual exertion, the truss allows a small quantity to pass out,

I determined, therefore, to attempt another plastic opera-

tion, taking precautions as to the complete closure of the mucous opening before covering it with the integument.

The operation was performed on the 17th May, as follows:—The patient having been put under the influence of chloroform, I raised, with catch forceps applied at three points, the puffy circular rim of the artificial anus. These forceps were held by assistants. With a sharp knife I cut off a slice, about one-eighth of an inch thick, of the mucous orifice, thus removing a ring of the mucous membrane at the opening of the gut. I then dissected the integument from off the subjacent structures for about an inch all round the opening. I waited till all the oozing of blood had ceased. I then introduced five or six thin catgut sutures into the mucous opening of the gut, taking care to make the needles enter and leave and draw together the exterior raw edge of the opening. I next shifted the dissected integument over the now-closed anus, and united the opposite sides by two button and three ordinary sutures of thin silver wire. The wound was dressed antiseptically, and firmly bound by bandages.

The wound healed perfectly without any suppuration, and was completely united when the silver wires were removed, eighteen days, after the operation.

On the 9th June she was allowed to get out of bed, without any bad result.

The bowels are moved naturally, and she is in every respect perfectly well.

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